

In the claims:

1. (Currently amended) A method for analyzing an image of a printed object to determine whether the printed image is a copy or an original, the method comprising:

using a programmed computing device to determine [determining] whether a machine readable auxiliary signal is embedded in the image, wherein the auxiliary signal is embedded at embedding locations using a set of two or more print structures that change in response to a copy operation, the change causing a divergence or convergence of a characteristic of the print structures such that the machine readable signal becomes more or less detectable; and

based on evaluating the machine readable auxiliary signal, using a programmed computing device to determine [determining] whether the printed object is a copy or an original.

2. (Original) The method of claim 1 wherein the set of print structures include a first color and a second color that change differently in response to a copy operation.

3. (Original) The method of claim 2 wherein at least one of the colors corresponds to an ink color that is out of gamut of a printer or scanner.

4. (Original) The method of claim 2 wherein a difference in luminance of the two colors changes in response to a copy operation.

5. (Original) The method of claim 1 wherein the set of print structures include a first print structure having a first dot gain property and a second print structure having a second dot gain property; wherein the first print structure is more susceptible to dot gain than the second print structure in response to a copy operation.

6. (Original) The method of claim 1 wherein a difference in luminance of the print structures changes in response to a copy operation due to a difference in susceptibility to dot gain of the print structures.

7. (Original) The method of claim 1 wherein the set of print structures include a first print structure having a first aliasing property and a second print structure having a second aliasing property; wherein the first print structure aliases differently than the second print structure.

8. (Original) The method of claim 1 wherein the auxiliary signal is embedded by varying continuity of line structures.

9. (Original) The method of claim 8 wherein one print structure comprises a line segment in a first color, and another print structure comprises a line segment in another color.

10. (Original) The method of claim 9 wherein the line segments of the different colors are arranged by varying between the first and second colors along a printed line.

11. (Original) The method of claim 1 wherein the evaluating includes evaluating a frequency domain metric to detect changes in the print structures.

12. (Original) The method of claim 11 wherein the frequency domain metric is a radial frequency domain metric.

13. (Original) The method of claim 11 wherein the frequency domain metric is used to evaluate changes in color of a print structure.

14. (Currently amended) A computer readable storage medium on which is stored instructions, which, when executed by a computer, perform a method for analyzing an image of a printed object to determine whether the printed image is a copy or an original, the method comprising:

determining whether a machine readable auxiliary signal is embedded in the image, wherein the auxiliary signal is embedded at embedding locations using a set of

two or more print structures that change in response to a copy operation, the change causing a divergence or convergence of a characteristic of the print structures such that the machine readable signal becomes more or less detectable; and

based on evaluating the machine readable auxiliary signal, determining whether the printed object is a copy or an original [for performing the method of claim 1].

15. (Currently amended) A method for creating an image to be printed on a printed object, the image being used to determine whether the printed image is a copy or an original, the method comprising:

using a programmed computing device to embed [embedding] a machine readable auxiliary signal in the image, wherein the auxiliary signal is embedded at embedding locations using a set of two or more print structures that change in response to a copy operation, the change causing a divergence or convergence of a characteristic of the print structures such that the machine readable signal becomes more or less detectable; and

using a programmed computing device to create [creating] a metric to detect the convergence or divergence from an image scanned of a suspect printed object to determine whether the suspect printed object is a copy or an original.

16. (Currently amended) A computer readable storage medium on which is stored instructions, which, when executed by a computer, perform a method for creating an image to be printed on a printed object, the image being used to determine whether the printed image is a copy or an original, the method comprising:

embedding a machine readable auxiliary signal in the image, wherein the auxiliary signal is embedded at embedding locations using a set of two or more print structures that change in response to a copy operation, the change causing a divergence or convergence of a characteristic of the print structures such that the machine readable signal becomes more or less detectable; and

creating a metric to detect the convergence or divergence from an image scanned of a suspect printed object to determine whether the suspect printed object is a copy or an original [for performing the method of claim 15].

17. (Currently amended) A method for analyzing an image of a printed object to determine whether the printed image is a copy or an original, the method comprising:

using a programmed computing device to determine [determining] whether a machine readable auxiliary signal is embedded in the image, wherein the auxiliary signal is embedded at embedding locations using a print structure that changes in response to a copy operation, the change causing a divergence or convergence of a characteristic of the print structure such that the machine readable signal becomes more or less detectable, the print structure comprising a color that changes in response to a copy operation; and

based on evaluating the machine readable auxiliary signal, using a programmed computing device to determine [determining] whether the printed object is a copy or an original.

18. (Original) The method of claim 17 wherein the auxiliary signal is embedded by varying continuity of line structures.

19. (Currently amended) A computer readable storage medium on which is stored instructions, which, when executed by a computer, perform a method for analyzing an image of a printed object to determine whether the printed image is a copy or an original, the method comprising:

determining whether a machine readable auxiliary signal is embedded in the image, wherein the auxiliary signal is embedded at embedding locations using a print structure that changes in response to a copy operation, the change causing a divergence or convergence of a characteristic of the print structure such that the machine readable signal becomes more or less detectable, the print structure comprising a color that changes in response to a copy operation; and

based on evaluating the machine readable auxiliary signal, determining whether the printed object is a copy or an original [for performing the method of claim 17].

20. (Currently amended) A method for creating an image to be printed on a printed object, the image being used to determine whether the printed image is a copy or an original, the method comprising:

using a programmed computing device to embed [embedding] a machine readable auxiliary signal in the image, wherein the auxiliary signal is embedded at embedding locations using a print structure that changes in response to a copy operation, the change causing a divergence or convergence of a characteristic of the print structures such that the machine readable signal becomes more or less detectable; and

using a programmed computing device to create [creating] a metric to detect the convergence or divergence from an image scanned of a suspect printed object to determine whether the suspect printed object is a copy or an original.

21. ((Currently amended) A computer readable storage medium on which is stored instructions, which, when executed by a computer, perform a method for creating an image to be printed on a printed object, the image being used to determine whether the printed image is a copy or an original, the method comprising:

embedding a machine readable auxiliary signal in the image, wherein the auxiliary signal is embedded at embedding locations using a print structure that changes in response to a copy operation, the change causing a divergence or convergence of a characteristic of the print structures such that the machine readable signal becomes more or less detectable; and

creating a metric to detect the convergence or divergence from an image scanned of a suspect printed object to determine whether the suspect printed object is a copy or an original [for performing the method of claim 20].